

## Responsive - Accessible - Relevant

*By: Cameron Kergaye, PhD, PMP, PE*

The Research Division is once again sponsoring a poster session at this year's annual UDOT conference. This will be our fourth year promoting innovative and transportation related research at the conference. And every year we make

Finally, AASHTO has renamed its Technology Implementation Group (formerly TIG) and is calling for award nominees. Now called the Innovation Initiative, AASHTO seeks to grant national recognition and resources to help lead others in adopting innovation. UDOT has been a previous recipient of the award for work on UPlan and Automated Traffic Signal Performance Measures. Those interested in submitting a nomination form from within UDOT should contact the Research Division before October 20.

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## Call for 2014 UDOT Annual Conference Poster Submissions

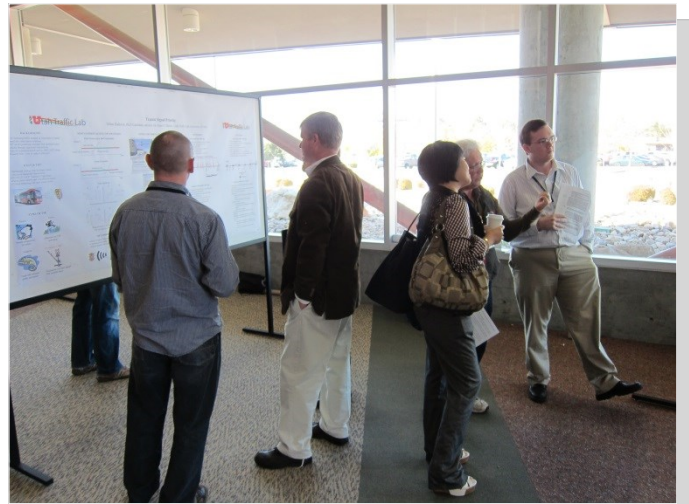
### What have YOU been working on?

Have you developed a new procedure, discovered a new application, or overseen another innovative practice within your work responsibilities that you would like to share? Have something to present that didn't quite lend itself to a lecture format? The Research Poster Session at the UDOT Annual Conference is the ideal time and place to get the word out.

The poster session will be held before and after lunch on October 29<sup>th</sup> in the exhibition area near the entrance to the dining hall, presenting a perfect opportunity to display your research to conference attendees.

Posters may be presented on any topic related to Utah transportation, including highways, motor vehicles, transit, nonmotorized modes, financing, planning, economic impacts, etc. Please email the session coordinator, Kevin Nichol, right away at [knichol@utah.gov](mailto:knichol@utah.gov) to express interest and get the form to submit a poster title and abstract.

Posters will be displayed on 4-ft by 8-ft boards. The ideal poster will have more graphics than text and will be readable from 5 feet away.



Conference attendees perusing posters

For further information, contact Kevin Nichol of UDOT's Research Division ([knichol@utah.gov](mailto:knichol@utah.gov)).



Annual Conference Poster Session



*The reasonable man adapts himself to the world; the unreasonable one persists in trying to adapt the world to himself. Therefore all progress depends on the unreasonable man.*

—George Bernard Shaw

*Behold the turtle. He makes progress only when he sticks his neck out.*

—James B. Conant

## Fostering Knowledge Management

About three years ago, Lori Dabling, then-State Project Manager at UDOT and now retired, submitted a unique and timely proposal for the AASHTO Domestic Scan Program. The proposal indicated a need, based on an expected increase in the number of retirees and a decrease in workforce size over the next decade, to speed up how state DOTs transfer knowledge to a technology-savvy workforce. The result was Scan 12-04, "Advances in Transportation Agency Knowledge Management," funded under NCHRP Project 20-68A. Lori Dabling participated with other Knowledge Management (KM) experts on the scan team.

The scan report is now available online at the following link: [http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-68A\\_12-04.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP20-68A_12-04.pdf). As stated in the report, the purpose of the scan was to "identify and document successful KM practices... and identify additional needs to advance KM in transportation agencies." The report has several great examples of KM practices and implementation strategies. It also notes that KM programs can involve both tacit knowledge that is difficult to document and explicit knowledge that has been codified.



Scan team presentation to UDOT leaders

With the recent completion of the scan, UDOT and other state DOTs are continuing to benefit from the results of the scan. This past August three members of the KM scan team visited UDOT and presented key results and strategies to interested UDOT leaders and staff.

The visiting scan team members included John Halikowski (Arizona DOT Director), Anne Ellis (Arizona DOT Assistant Deputy Director), and Frances Harrison (Spy Pond Partners). Approximately 40 UDOT leaders and staff attended be-

tween the two presentations given by the scan team. The presentation to leaders included discussion of the KM value proposition. Mr. Halikowski emphasized that KM processes can enable a state DOT to "act as intelligently as possible as an organization" and recommended prioritizing KM efforts to align with a state DOT's top organizational needs. Ms. Harrison provided highlights to leaders and staff about public and private-sector organizations which are having great success with KM practices, including Kraft Foods and some state DOTs such as Virginia DOT.

Pairing of the Top Ten Organizational Needs with the Ten Facets of Knowledge Management (from Mr. Halikowski's presentation)

ORGANIZATIONAL NEEDS	KNOWLEDGE MANAGEMENT
Leadership & Strategy	Knowledge Leadership & Strategy
Management of Intellectual Capital	Intellectual Capital Management
Communities and Collaboration	Communities and Collaboration
Organizational Culture and Communication	Organizational Culture and Communication
Operations	Knowledge Operations
Institutional Knowledge	Organizational Learning
Technology	Knowledge Technologies
Asset Management	Knowledge Asset Management
IT Assets	Knowledge Architecture
Performance Measures	Knowledge Assessment and Evaluation

We look forward to hearing and sharing more success stories about KM techniques being implemented within UDOT. The scan report and strategies described in it will certainly become valuable resources for us all in this process. If you would like help in contacting scan team members or other knowledge management experts, you may contact David Stevens in the UDOT Research Division at [davidstevens@utah.gov](mailto:davidstevens@utah.gov).

## Bicycle and Pedestrian Safety at Intersections: Phase 2

### Different Modes = Different Experiences

While the transportation network is meant to accommodate a variety of transportation modes, the experience varies for users of each mode. Cyclists and pedestrians face a greater risk of injury or death when involved in a crash as compared to drivers/passengers of motor vehicles. Crashes involving active travel modes are most likely to occur at an intersection, therefore it is imperative to understand what characteristics make any given intersection safer or more dangerous.

### Expanding the Geographic Scope

The goal of this research was to build upon the findings from a pilot study of Salt Lake County (2012) to examine which characteristics of the built-environment, roadways, and signal programming have the biggest impact on safety and crash rates for active travelers. This phase of data collection examined intersections in Weber, Davis, and Utah Counties.



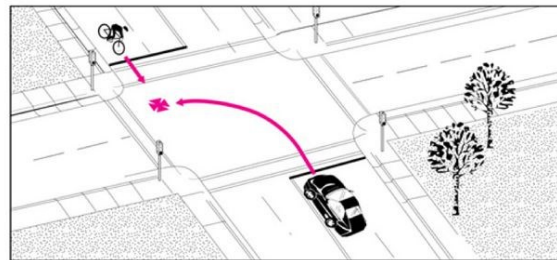
Davis County study results: high-risk = red, low-risk = green

### Collecting the Data

Using data from the Utah Office of Highway Safety and UDOT, crashes involving at least one pedestrian or cyclists were highlighted within the study area. Intersections with the highest numbers of incidents were then further evaluated on 83 distinct criteria. Intersections with very low crash rates were also evaluated and included in the analysis for comparison.

### What Makes an Intersection Dangerous?

The analysis found that incorporating longer signal lengths, reducing the presence of left turn arrows, and limiting non-residential driveways within 100 meters of intersections can significantly reduce the number of non-motorized accidents. Additionally, road construction at intersections was shown to significantly increase the number of non-motorized incidents; particularly those involving cyclists.



Left Turn Parallel Path Problem

### System Improvements Benefit All Users

Addressing these issues and enacting appropriate improvements will not only improve safety conditions for non-motorized users, but will likely also provide an enhanced travel experience for automobile travelers and result in additional external benefits of traffic calming and improved flow.

### Next Steps...

A follow-up to this research is currently underway, and will examine intersection safety off the Wasatch Front in Cache, Tooele, and Washington Counties, as well as in Moab City.

For more information, please contact Shaunna K. Burbidge, Ph.D. ([burbidge@walkbikeplan.com](mailto:burbidge@walkbikeplan.com)) or Jason Richins, S.E. of UDOT's Research Division ([jrichins@utah.gov](mailto:jrichins@utah.gov)).

## SHRP2 Implementation Projects Update

UDOT has received or will be receiving implementation funding on five SHRP2 projects. They are:

### Organizing for Reliability Tools (L06/L01/L31/L34)

We are undergoing operations assessment to improve travel-time reliability. The goal is to improve safety, increase efficiency, and reduce the cost of congestion to drivers, freight operators, and other users. The work is ongoing.

UDOT has been awarded \$200K.  
Rob Clayton is the UDOT contact for this project.

### GeoTechTools (R02)

This is a web-based collection of information and guidance developed from over 40 technologies that are used for new roadways or widening embankments constructed over unstable soils. Training on this program will be given at the upcoming UDOT Annual Conference.

Jon Bischoff is the UDOT contact for this project. Liz Cramer is the division FHWA contact.  
UDOT has been awarded \$30K.

### Pavement Renewal Solutions (R23)

This is a report and program to help design long-life pavements that are cost effective and that minimize the impact on roadway users. We were awarded the User Incentive Assistance which is approximately \$20K. We look to begin Spring 2015.

Jason Richins is the contact with technical assistance provided by Steve Anderson, both from UDOT.

### Economic Analysis Tools (C03/C11)

T-PICS is a web tool that planners can use to see the impacts that occur as a result of different types of projects in different settings.  
This product was just launched.

Jeff Harris is the UDOT contact and Steve Call is the division contact for FHWA. UDOT anticipates up to \$25K for this project.



### Economic Analysis Tools (C03/C11)

New spreadsheets were developed that estimate the economic impact for a proposed highway project. This product was just launched.

Jeff Harris is the UDOT contact and Steve Call is the division contact for FHWA. UDOT anticipates up to \$125K for this project.

### Concept to Countermeasure – Research to Deployment Using the SHRP2 Safety Data (NDS)

This is two petabytes of video and data from 3,150 drivers aged 16-80 with nearly 50 million miles under actual driving conditions. Dr. R.J. Porter and his team from the U of U will be studying driver behavior at entrances and exit ramps on interstates. This research will begin in January 2015.

Phase I has a budget of up to \$100K and the option of a phase II and III. The combined value of phase II and III could be close to \$1M.

Scott Jones is the UDOT contact for this project.

\* \* \*

More information can be found by clicking on the titles which are hyperlinked to the corresponding pages on the SHRP2 website.

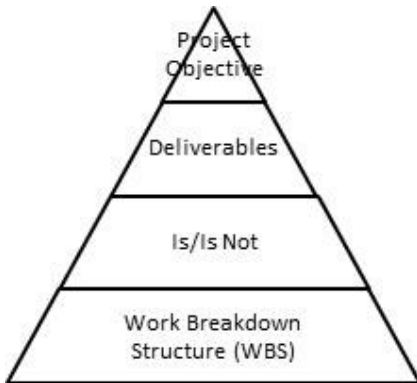
Five additional SHRP2 implementation products will be released in [Round 5](#) which will begin January 16, 2015.

For more information, contact Jason Richins of UDOT's Research Division ([jrichins@utah.gov](mailto:jrichins@utah.gov)).

## Tools for Planning and Monitoring Research Projects

The UDOT Research Division recently updated their Project Management Checklist. The checklist is a tool for use in planning and monitoring progress of new research projects at UDOT. It is available on the Research Division website under Project Tool Box, along with a new Project Management Worksheet which helps to define the project prior to contracting with a university or consultant.

A previous version of the checklist had been in use for several months and was based on project management training given to UDOT regional and central project managers by Ernie Nielsen of BYU. In early 2014 the Research Division staff received additional training from Ernie Nielsen in using the project planning principles within the checklist, including an exercise using an actual new research project. Based on that exercise the checklist was refined and the worksheet was created in July 2014.



Schematic for project planning

The updated checklist is a simplified version of the previous one and is well suited for the typical size of research projects funded at UDOT. The new worksheet helps key individuals inside and outside UDOT, representing groups most affected by and most able to contribute to the research, to define the project objective and deliverables. These tools help research project managers involve the right people in planning and conducting the research, preparing the way for effective implementation of research results at UDOT.

**1.3.3 Identify Stakeholder or Functional Groups (names identified next)**

Most Affected	Most Able to Contribute
1	A
2	B
3	C
4	D
5	E
6	F
7	G
8	H
9	I
10	J
11	K
12	L

**1.3.4 Determine Technical Advisory Committee (4 to 7 members)**

Advocate Name	Groups (enter numbers)
Chairman	
Project Manager	

Advocate Name	Groups (enter numbers)

Project management worksheet excerpt

Research projects at UDOT typically have much smaller budgets, have fewer activities or tasks, and are more focused on incremental process improvements than regular UDOT projects. UDOT research projects are usually completed within one or two years, and the majority of these come from the annual Research Workshop where submitted problem statements are prioritized. Both types of projects can benefit from the same project management principles, including effective planning and scheduling of tasks and resources. Scheduling tools used on UDOT research projects vary from basic MS Project files to spreadsheets to track tasks and milestones.

We look forward to working with our research project champions, technical advisory committees, and researchers while benefiting together from using these new tools.

For more information on the new checklist and worksheet, visit our website or contact Cameron Kergaye, UDOT's Research Director, at [ckergaye@utah.gov](mailto:ckergaye@utah.gov).

## Leadership Discussion Book: Review of *Help Them Grow or Watch Them Go*

Last month, along with other leaders and staff from UDOT, we read and reviewed with UDOT Deputy Director, Shane Marshall, *Help Them Grow or Watch Them Go – Career Conversations Employees Want*, by Beverly Kaye & Julie Winkle Guillioni. It is a quick read for those easily scared by large books (myself included). If you are looking to further your career or if you want to help employees further their careers this is a great book! And, don't worry it is a lot easier to do than you think and doesn't have to take a lot of time!

**“Careers are developed one conversation at a time – Over time. Talk is the most precious and result-driven commodity managers have to share.”**

The quotes above are from the book. The book goes into detail about asking the right open ended questions to get employees to think about where they would like to go with their careers. These open ended questions help employees develop a vision or plan of where they want to “GROW”. The next important step is to share that plan with your boss and others that can help your growth. This leads into the next great idea, which is “Mentworking” and is trademarked by Career Systems International. It combines mentoring and networking.

Mentworking is built on two premises: “Nobody knows it all, and it's reciprocal.” Mentors also learn while they are mentoring.

Workers have to continue learning and growing to stay competitive. Having great mentors is very important in our growth.

**Today, the lines between  
mentoring and networking  
are blurring.  
Welcome to the world of...**

**MENTWORKING.**

One of the most important reasons to have good mentors is for the feedback that we can receive. This leads to my last quote from the book:

“Managers, beware. A low-feedback diet may be harmful to the health of your business. Side effects include:

**Disengagement Stunted growth Lack of  
clarity Lost opportunities Loss of  
talent.”**

Good honest feedback is important for each of us as we grow in our careers. There is a great chapter on how to give, solicit and receive feedback.

If you are interested in developing your and your employees' careers, copies of this book in both print and audio formats can be checked out from Joni DeMille ([jdemille@utah.gov](mailto:jdemille@utah.gov)) in the UDOT Library.

## Research Calendar of Events



### [RESEARCH FUNDING OPPORTUNITIES](#) (click to see the full document)

2014 AASHTO Innovation Initiative Nominations (formerly AASHTO TIG), DUE on October 31, 2014

NCHRP Synthesis of Practice Topics, DUE on February 13, 2015

### [WEBINARS](#) (click to see details or on title to register)



Title	Day/Date	Time
Long-Term Performance and Life-Cycle Costs of Stormwater Best Management Practices (TRB)	Thursday, Oct. 9	12:00 PM – 1:30 PM
Nonmotorized Transportation Pilot Program (NTPP) [NHI]	Wednesday, Oct. 22	11:30 AM – 1:00 PM
Practical Structural Health Monitoring for Bridge Owners (TRB)	Wednesday, Oct. 22	12:00 PM – 1:30 PM
Applying Scenario Methods to Transportation Planning & Policy (TRB)	Thursday, Oct. 23	12:00 PM – 1:30 PM
Effects of Warm Mix Asphalt on Plant Energy & Emissions and Worker Exposure to Respirable Fumes (TRB)	Monday, Oct. 27	12:00 PM – 2:00 PM
Obtaining Return on Investment from Structural Health Monitoring (TRB)	Thursday, Nov. 6	11:00 AM – 1:30 PM
Summary of Recent Stormwater Research Funded by NCHRP (TRB)	Wednesday, Nov. 12	11:00 AM – 12:30 PM
Implementation of International-Roughness-Index-Based Smoothness Specs for Bridges & Approaches: Lessons Learned (TRB)	Monday, Nov. 17	11:00 AM – 1:00 PM
Long-Term Performance of Epoxy Adhesive Anchor Systems (TRB)	Wednesday, Nov. 19	11:00 AM – 1:30 PM
Women's Forum: Myths & Realities of Gender Communication (NHI)	Thursday, Nov. 20	11:00 AM – 1:00 PM
The First Mile: A Launch Manual for Great Ideas	On Demand	On Demand
A Closer Look at the New Science of Motivation	On Demand	On Demand